

SWBAT: define frequency, period, and sound

Jan 4-7:20 AM

Welcome!!!

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SECA Physics
Tuesday 8 April 2014

- * Pick up:
 - blue concept sheet
 - slip of paper (for later)



Opening Question:

Check in with a neighbor: What would frequency mean for the waves in this picture?

HOW MANY WAVES PER SECOND

Centering

Sep 7-7:04 AM

Daily 3 Questions

- * Every day except test/project days
- * 3 Questions on the topics of the day
- * Main source of daily points
- * I am happy to give credit when I have no concerns about someone giving or getting help with the answers.

FYI...

You can't get your points if you don't have your NAME!!!

Name	Period
1.	
2.	
3.	

Sep 9-7:32 AM

Concept Sheet

~ 7 rows when we're done...

We'll fill in one term (row) today.

Concept	Meaning	Sym- bol	Units	Picture
FREQUENCY	HOW MANY PER UNIT OF TIME $FREQ = \frac{\#}{TIME}$	f	hertz $Hz = \frac{1}{sec}$	∴ □□:□□

Feb 18-6:50 AM

What does FREQUENCY mean (in physics)?

How often something happens

Repeating events per unit time

60 DOTS IN 10 SECONDS

$$f = \frac{60}{10 \text{ s}} = 6 \text{ Hz} \quad 6 \frac{1}{\text{s}}$$

6/sec

6 per sec.

$$f = \frac{\#}{\text{TIME}}$$

SMILEY FACES How MANY IN 1 MIN.

6 FACES IN 1 MINUTE

$$f = \frac{6}{60 \text{ s}} = 0.1 \text{ Hz}$$

How LONG FOR 1 SMILEY?
10 SECS

Apr 12-7:13 AM

Apr 8-1:11 PM

Wave: a wiggle in time and space

Think of three examples of "waves" = wiggles in time and space

STARS → LIGHT ← M.W.
SUN
PLANET ORBITS

EARTHQUAKES

FLAG IN WIND

WORM

SOUND, BATS, DOLPHIN, WHALE → SONAR WAVING EAR DRUM

What about Ruffles potato chips? WAVE SPACE
X NOT TIME

Apr 8-9:02 AM

http://www.youtube.com/watch?v=QxD_-e-GkmY&feature=related

Sound experiment:

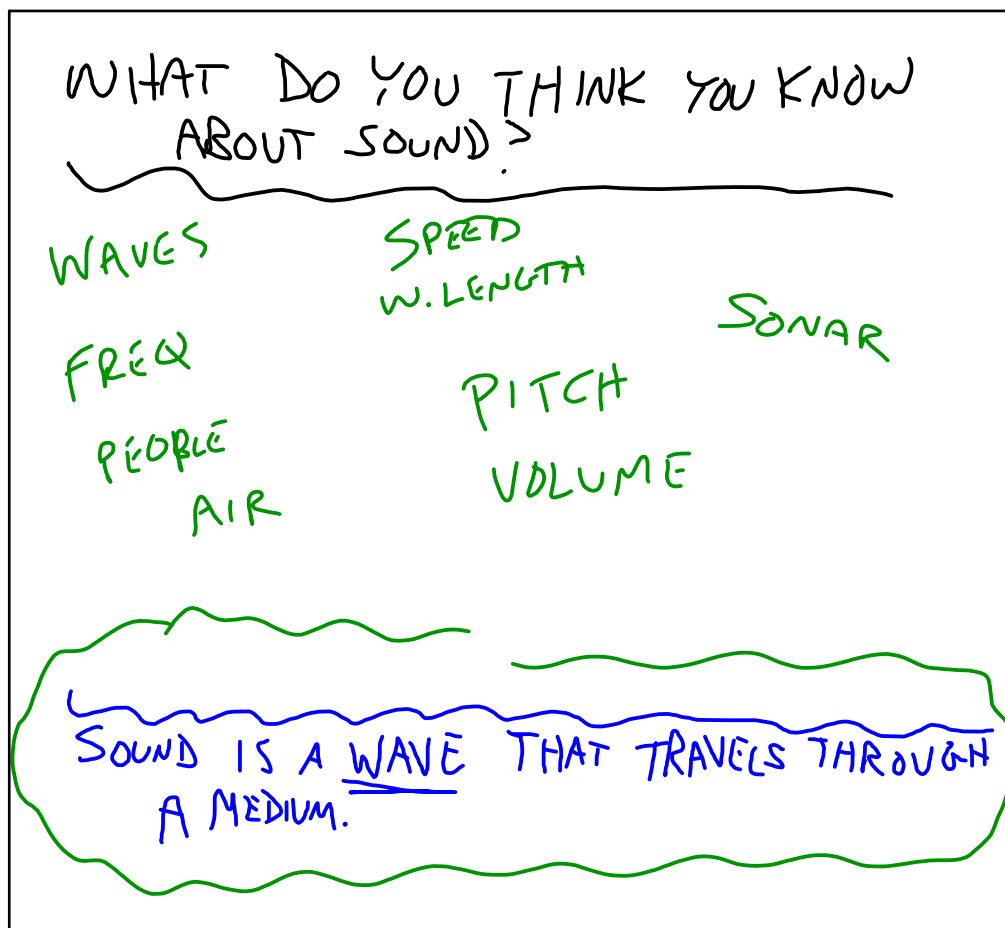
<http://www.youtube.com/watch?v=ce7AMJdq0Gw&feature=related>

What is he doing? What's happening?

- TURNED ON BELL
- TURNED ON PUMP
SUCK AIR OUT
- SOUND VOLUME DECREASED
- LET AIR BACK IN
- BELL VOLUME INCREASED

SOUND IS A WAVE THAT TRAVELS THROUGH A MEDIUM → SOMETHING:
AIR
WATER
TABLE

Mar 29-7:38 AM



Apr 12-9:37 AM

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CP: Describe some evidence that sound can travel through a medium other than air.

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2.	
3.	

Sep 9-7:32 AM

1) What are the units for measuring frequency?

Hz per second
 $\frac{1}{\text{sec}}$ Hertz

2) What happened when the guy took the air out of the jar with the bell ringing?

GOT QUIET

3) Sound is a WAVE that travels through a medium.

Apr 12-7:15 AM